The NASA Glenn Research Center
Macintosh User Group

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Officers

Melissa McGuire
President
Melissa.L.Mcguire@grc.nasa.gov

Ward Souders
Vice President
Ward.Souders@grc.nasa.gov

Lisa Madden
Secretary/Editor
Lisa.Madden@grc.nasa.gov

Apple Rep
John Rotluff
rottluff.j@apple.com

Welcome to the Glenn Macintosh User Group (GMUG). This is our first on-line newsletter. It's been quite some time since this MUG was active and now that Steve Jobs has come back to Apple, it's about time we got this group together again. With this first issue, we hope to usher in a new era for our Macs here on lab. We hope to make this newsletter, and our group meetings, a place where our Mac users may go for information on the most current trends, chat with other GMUG members, as well as get the latest scoop on our Mac configurations specific to the Center (SMS and ODIN anyone?).

We look forward to lots of exciting things as OS X nears completion this summer and hope to be able to bring you news as it happens and help you find answers to your questions. We, the officers—**Melissa McGuire**, President, **Ward Souders**, Vice President, and **Lisa Madden**, Secretary/Newsletter Editor—are going to need a lot of help from you, our members and fellow Mac users, so speak up and send in your suggestions (okay, even complaints, but make them constructive). Reviews are *always* welcome.

If you don't see the things you are interested in in this newsletter, tell us, and we'll see that we change that. Most of all, just enjoy. 2000 is going to an exciting year to be a Macintosh user.

—Melissa McGuire

We wish to thank Melissa McGuire for the logo concept, and graphic artist, George Skoch, for design implementation (as an aside, George is a recent convert from the Wintel world).

—Lisa Madden, editor

MacSPOC: Bringing Orbit propagation to the Macintosh

MacSPOC (SPOC = Spacecraft Personal Orbit Computations)

Reviewer: Melissa McGuire

March 10, 2000

Rating: of

The software in this review may be found at the following URL.
http://www.MacMissionControl.com/~MMC/Overview.html

From the MacSPOC introduction, here's the background for this application.
http://www.MacMissionControl.com/~MMC/MacSPOC/MacSPOC.html

> "Inspired by NASA's Shuttle Portable Computer (SPoC) GRiD-OS program, MacSPOC was independently created for Mac OS computers by Daniel R. Adamo in 1989. Many unique MacSPOC features were subsequently developed for Space Shuttle astronauts and payload sponsors. Since 1990, MacSPOC has flown in earth orbit during three Space Shuttle missions. It also sees regular use at Johnson Space Center's Mission Control as a supplemental and portable trajectory display. Following negotiations with NASA completed in 1993, MacSPOC is now available as a commercial product."

Anyone may test drive this application simply by contacting MacMissionControl and requesting a demo license. Downloading the binhex encoded demo installer requires a password. That is exactly what your reviewer has done to put together this review. Both a PowerPC and 68k version of the application are available for download. For this review, a PowerPC version was used.

Simply stated, MacSPOC is an earth-orbit simulation program. With it you can calculate communication times between satellites and ground stations as well as observation times for amateur astronomers. Our group here on the lab actually has this capability in two different applications, neither of which are available on the Macintosh platform: the free portion of Satellite ToolKit is only available for UNIX and Windows operating systems (www.stk.com) and our in-house developed code(on a Sun workstation) used in support of some of the Atlas and Titan launches we worked on back in the ELV days here at the center. MacSPOC falls in between the capabilities of the two, offering simple graphics unavailable in our in-house code but less overhead steps to input a satellite as in STK.

Given some orbital elements, a user could track, in real time, the orbit of the space shuttle, or the now unmanned International Space Station (ISS). The MacMissionControl homepage offers a repository of past orbital element sets (called Checkpoints) for Shuttle missions back to 1995. An email distribution listing also exists to provide registered users with the most recent shuttle mission data. Use the contact email address [Daniel R. Adamo, Proprietor — damod@iapc.net] at the site for further information.

Getting MacSPOC up and running on my PowerMac G3 beige was a snap. Just unstuff the .hqx archive with Stuffit Expander, and launch the application. Nothing to install into the system folder. The whole application is only a few hundred KB in hard disk

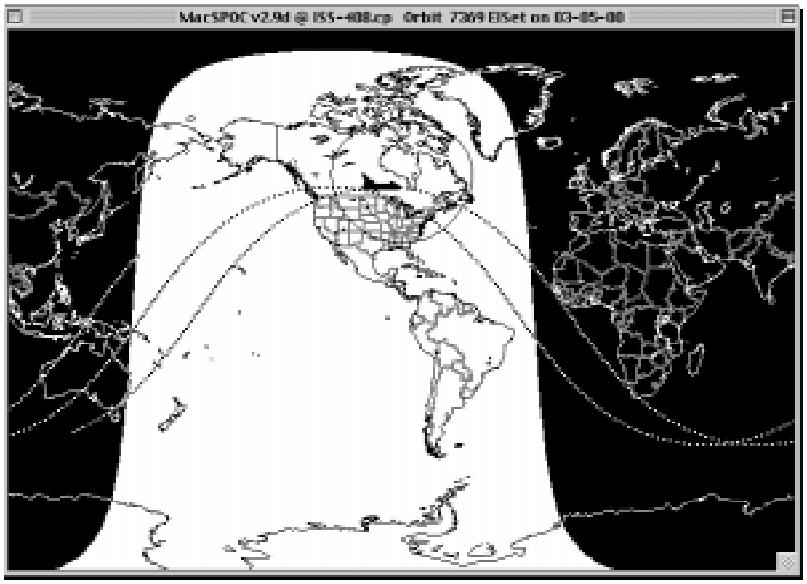
space and required only 2.9 MB of RAM to run. Although the interface doesn't offer easy clues as to how to input data, a handy users guide in PDF format is available for download from the site.

MacSPOC has been flown and used on the Shuttle three times using a Macintosh PowerBook computer.

A screen shot as taken from my computer as I compose this of a past trajectory of the ISS is seen in the Figure. I am allowing MacSPOC to update the trajectory in real-time, propagating out the position of the ISS as time clicks by on my computer clock, as I type this review up. I downloaded the trajectory data from the MacMissionControl archive. Presumably, the user could create their own maps if they desired something more than the black and white one provided in the install.

The user may specify their own orbital elements for a spacecraft or satellite in Earth orbit instead of relying on the database of checkpoints in MacMissionControl. Entry of elements that make sense requires a little orbital mechanics know-how and some Mac File manipulation tricks. Both atmospheric drag and solar flux are also included in the orbital propagation for more accurate simulation. Burns may be simulated, as well as coast phases, but you have to sometimes start with already existing checkpoint files with burn phases in order to edit them. Spacecraft attitude and line of sight may also be edited or used in output sets. The Users Guide has extensive help and a glossary of terms to walk the user through using and understanding the data in the application. Appendix B of the User's Guide contains an exercise for the user to follow in order to get familiar with the program. The third appendix helps in creating the satellite input sets from scratch.

Overall this is a power orbital analysis tool with low memory and hard drive overhead. Best of all, it brings orbital propagation to the Macintosh platform. There are no other applications out there, save for running STK in Windows emulation, which provide this capability on the Macintosh. With the limited processor and memory demands of MacSPOC, you could leave this program running in the background while running any number of other applications. I have had it running in the background while writing this review in Word and referring to the User's Guide in Adobe Acrobat with no problems.



Although the price is high at $100 per license, with an optional group license discount rate, MacSPoC would make a useful tool for a classroom setting to teach the finer points of orbital mechanics as well as in a work setting to run real time simulations of earth orbiting satellites. If interested, I would encourage users to check out a demo license available from the site administrator and (I presume) developer of the application.

iBook Review: A powerful little machine at a reasonable cost

Melissa McGuire

Feb. 29, 2000

Not every computer can be everything to every customer. My newest computer, the Apple iBook introduced last summer, is targeted at people like me who want a portable but don't want to pay the cost of the professional PowerBook line. With the iBook, I got a stylish (personal opinion here) portable Macintosh with the power of a G3 at an affordable price. If your needs are for a portable computer capable of video editing with a large hard drive and an interface with Firewire hardware, then it's an Apple PowerBook that you should be looking at.

At the MacWorld Tokyo conference in February 2000, Apple introduced an upgrade to the iBook line (Rev B). This review will concentrate on an original model (Rev A) of the iBook I purchased at Sears last October for home use, but should apply to both the original and newly revised models.

For the price, the iBook packs a lot of features: 3.2 GB hard drive (now 6GB in Rev B), 32 MB RAM expandable to 160 MB (now 64 MB, expandable to 320MB), 56K internal modem, 10/100 baseT Ethernet port, sound out, and one USB port. The latchless closure allows for a wake from sleep option when the iBook is opened. The battery advertises up to 6 hours of life depending on settings. I have used the iBook pretty extensively without energy conservation settings and have easily gotten 4 to 5 hours out of it. The iBook (both the original and newly revised models) matches the features of similarly priced Wintel laptops. Here's a link to a recent web article on the subject: [http://lowendmac.net/ibook/compare.html].

Aside from its good looks, I have found that the iBook is really fast and stable under both OS 8.6 and 9. I often have Appleworks, Eudora Pro, Netscape, and Timbuktu Pro all running smoothly at the same time. I use the iBook's sleep feature instead of a full shutdown with no problems. A word of caution: don't move it until the green sleep light starts pulsing.

If you want to get the most out of any Mac, make sure to expand to the maximum amount of RAM you can afford. Installation of memory in the iBook is simple and made the 'book seem to run even faster. Apple provides visual instructions both in the manual and printed under the keyboard inside the iBook near the RAM slot. The original iBook shipped with OS 8.6 installed but the upgrade to OS 9 took only minutes. Current versions come with OS 9 and

some have been reported to contain OS 9.0.2.

The “wow” application we’ve used on the road involves using a third party application called **gpsy** (www.gpsy.com) to control a handheld GPS (Global Positioning System) receiver connected through a USB to serial converter and a map program called **Street Atlas** (www.delorme.com) for real time mapping and navigation capability. Look for my review on how we did that at a later date.

With it’s polycarbon plastics, the iBook feels sturdy. The hard drive is quiet and quick. The active matrix flat screen is better than my old 15" NEC monitor on my PowerMac 6100/66 at home and easily as clear as my 19” AppleVision Display at work. The keyboard is responsive and the keys are easy to find without having to uncomfortably bend your wrists. The trackpad has a good feel and its different design eliminates the possibility of crumbs or other dirt getting trapped underneath. It just takes a little getting used to after only ever having Mouse experience. A neat touch is that the power cord plug glows orange to indicate battery charging and green to indicate fully charged. The airport antenna may be seen wrapped around the edges of the screen.

Speaking of Airport, now shipping on all Apple models is the Airport wireless networking technology. Although I have not experimented with the airport, installation of the card is a simple procedure. The pictorial manual also displays where to place the airport card. Once enabled, the iBook can wirelessly connect to the internet, an ethernet network, and other iBooks with airport cards. I will report back when I have some Airport review to give.

Overall, the iBook is everything I was waiting for in the much-anticipated consumer portable. I had been getting by with a five year old PowerMacintosh 6100/66 for web-surfing, email, graphics, budgeting, word processing, etc., and wanted to upgrade to a faster G3 computer as well as enjoy the fun of a portable. Up until now, my only choice was the more expensive professional PowerBook line. Since I do not have need for Firewire, video production, etc. and don’t own any DVDs, the lower cost iBook (by $1000) perfectly fit my needs. I’d recommend the iBook to anyone looking for a consumer model Macintosh in a portable package. Plus, it’s just a really well made little computer down to the last detail.

By the way, I chose blueberry, in case you were wondering.

All opinions here are mine and do not represent that of NASA. Feel free to direct any comments or questions to me at *melissa.mcguire@grc.nasa.gov*. For more information on the iBook, both Rev A and B, there are several internet sites you can peruse. Here is a sampling of some of them.

http://www.apple.com/ibook
http://www.ibookplanet.com/index.shtml
http://lowendmac.com/ibook/index.shtml
http://www.ibookhelp.com/
http://www.ibookzone.com/
http://www.ibook-user.com/

Got MAC?

CHECK THESE OUT!!

Here are are some Mac-related websites to bookmark to help you keep up with the latest Mac news.

http://www.macsurfer.com — a headline news repository for Apple stuff
http://www.macnn.com — another great headline news sort of site.
http://www.macseek.com/ — an excellent source for comparison shopping on RAM prices.
http://lowendmac.com/ — a good site for those with older Macs wanting to keep them for as long as they can.
http://www.versiontracker.com — it is what it says, a good place to keep up to date on all the latest releases of the updates to software.
http://www.apple.com — why not start at the top!

Tips of the Day

Switch Application Switcher
Intermediate

Mac OS 8.5's Application Switcher palette is extremely configurable —you can determine the size of the icons, whether an application's name will appear in the palette, and whether the palette will display icons horizontally or vertically, for example. Unfortunately, just about no one knows the tricks for changing the configuration of this handy palette. Thankfully, you know longer need to.

Instead, just download a copy of Mitch Crane's free SwitcherSetup CM, a contextual menu plug-in that allows you to configure the Application Switcher palette to your heart's content. Just drop SwitcherSetup CM onto your closed System Folder and restart to install the plug-in. To use it, Control-click on the desktop while in the Finder.

You can find your copy at **http://www.macdownload.com.**

Blinking folder icon at start up

If you did the firmware upgrade on your B&W G3 computer, you have probably noticed that now every time you boot up, you get a blinking folder icon from 4 to 15 times. This can get mighty annoying, as I'm sure you already know. To make it stop, all you need to do is go into your Start Up Disk Control Panel and reselect your hard drive. Next time you boot your machine, no more flashing folder icons!